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Case of Obliteration of a part of the Intestinal Canal, with a rare and unusual formation. By Richard A. Sale, M. D.

On the 13th day of October last I was called to see a coloured man who was labouring under symptoms of colic. He had suffered from previous attacks of this disease, at various intervals during the last eight or ten years. His sufferings were great, and, notwithstanding the most prompt and decided measures were had recourse to, by myself and two other medical gentlemen, the case terminated fatally. But before his death all the symptoms of ileus were present. The abdominal viscera were examined by Dr. Davis and myself, twelve hours after death. The small intestines were greatly distended, and much larger than natural. At the junction of the ileum with the cæcum there was an entire obliteration of the former, for the space of some inches, leaving not the slightest vestige of a canal. Above the obliterated portion the bowels were gangrenous for some distance. The most remarkable feature, however, was that of a malformation, or an adventitious production, resembling in looks and structure a portion of bowel. This raw production was given off from the cæcum, nearly opposite the appendix vermiformis, (which was natural) of the size of the colon, occupying the pelvic region, about ten inches in length, surrounded by mesentery, containing fœcal mater, and terminating spirally in a cul-de-sac, which rested on the lower anterior wall of the rectum. It should be stated that during the progress of the case the introduction of the finger into the rectum furnished evidence of the existence of a tumour, occupying the position in which this pouched termination of the new bowel was found after death. Adhesions, more or less perfect, the result of peritoneal inflammation, had taken place between it and the parts in contact with it; and the remark is true of the contents of the cavity generally. The colon was uncommonly small, and very much strictured in several places. I will not offer any conjectures, as to what gave rise to this formation. It is impossible to surmise whether it existed at his birth, or whether from some extraordinary effort of nature, it was an adventitious formation. The obliteration of the bowel had, I presume, been gradually taking place for years, and was completed after his last attack, as his death did not occur until the twelfth day from the attack.

Bedford County, (Va.) Nov. 10, 1842.

BIBLIOGRAPHICAL NOTICES.

Introductory Lecture to the course of Materia Medica in the University of of Pennsylvania. Delivered November 2, 1842. By George B. Wood, M. D. 8vo. pp. 27.

Professor Wood's lecture on "the proper choice of medicines," is an appropriate discourse, polished in style, and judicious in advice. The professor

offers a series of hints to the young physician for his guidance in the choice of medicines, which embody views to which all sound practitioners will heartily respond. The professor, in the first place, recommends the inexperienced practitioner, as a general rule, not to go beyond the limits of the officinal catalogue of the national pharmacopœia for his selection of remedies. This caution is to be understood as a check upon the employment of remedies "of newly-asserted or revived pretensions," without properly attested credentials, and is particularly addressed to the practitioners of immature experience.

The professor expresses himself forcibly and justly with regard to the class of physicians who deal in "heroics." We suspect, however, that this style of practice is less characteristic of "the West," at present, than the professor "is led to suppose." The well drawn up reports of cases which fill the pages of the western journals, give evidence of the prevalence of a judicious and *moderate* therapeutics. We quote Dr. Wood's remarks:

"There is a class of practitioners who seem to look upon diseases as the Stoics did upon sins, as all equally heinous. No sooner do they catch a glimpse of something suspicious in the distance, than they conclude at once that it is an enemy, and, without estimating his strength, prepare to crush him by the most energetic measures. In every low black schooner they discover a pirate, and direct their paixan guns indiscriminately against the ship of the line and the cockboat. Happily, this disposition is less prevalent than formerly, and, in our parts, has in great measure left the regular profession to seek a refuge among empirics. In the West, however, we are led to suppose that it still prevails with many practitioners. In that section of our country, they are accustomed to every thing on a grand scale, from their magnificent streams and prairies, their gigantic trees and great men, intellectually as well as physically, to their drachm doses of calomel. Perhaps the diseases, as they assert, may partake of the same gigantic character, and require corresponding treatment. Let us hope that they will hereafter participate in our experience, and, whether from a change in the character of the disease, or in the estimate of its force, learn, as we have done, the sufficiency, in most cases, of milder measures. I would not, however, be considered as advocating an inert treatment of disease. I am in favour neither of the ptysan practice of the older French physicians, nor of the mere moonshine of the Homœopathists. All I mean is, that the character of the medicine and its dose should be regulated by the nature of the disease; that we should treat mild cases by lenient and persuasive measures, and launch our thunders only at the refractory and the violent."

Dr. Wood objects alike to the unnecessary multiplication of heterogeneous ingredients in our formulæ, and to the opposite extreme of too great a simplicity in prescriptions. The tendency of pathology and therapeutics at the present time is in the opposite direction to this extreme simplicity; and Dr. Wood's views are in confirmation of the prevailing opinions.

Dr. Wood dwells strongly upon "the restless love of what is new, which, while it is producing much good, is working also no inconsiderable amount of evil," in medicine as elsewhere. Glancing at the wearisome rapidity of

the changes proposed in the nomenclature of chemistry and botany, he cautions his hearers at length not to be led astray by this love of novelty in the choice of medicines. His observations on this point are excellent; the tone of them is, perhaps, imbued with a little too much conservatism:

"All the most valuable and best tried instruments of our art are but too apt to fail in obstinate cases of disease, and even where success is probable or certain in the end, it is too often slow. In our extreme anxiety and impatience, we are ready to catch at any aid that is confidentally held out to us; and, as most new medicines or preparations come recommended by a never failing success in the hands of their introducers, we are not without seemingly reasonable hope of advantage from them. In addition to the mere inducements of novelty, we have the uneasiness under a heavy responsibility, and the fear that we may leave some possible means untried of acquitting ourselves well in the almost fearful charge entrusted to us. Many yield to these inducements, and make an eager trial of the new remedy. Perhaps accident, and those various circumstances which very frequently conspire to produce a false conclusion as to the efficacy of a particular treatment, may work in its favour, and we may thus, from a partial experience, acquire a confidence which may lead to its further and more extensive employment, until the tide of fortune changes, and repeated failures at length conduct us back to a just estimate of its value. The continuance of the same causes leads subsequently to similar results. With each newly proposed remedy we run the same round of promising trial, partial success, and ultimate disappointment; and the consequence sometimes is, that drawn off from established methods of cure in pursuit of these *ignes fatui*, we find ourselves at last unsettled in practice and opinion, distrustful of the old without having acquired confidence in the new, and almost ready to surrender in despair all reliance upon the efficacy of medicine. Of newly proposed remedies, many are mere revivals of those once employed but afterwards neglected or forgotten; while, of the remainder, the great majority are wholly incapable of maintaining the place into which they have been temporarily elevated. Since the period at which I commenced the practice of medicine, iodine and its compounds are almost the only new remedies which have come into general use; for morphia, quinia, strynchnia, creasote, &c., are merely the isolated active principles of medicines before well known; while numerous substances, original or revived, for which high claims were asserted, are either altogether forgotten, or treated as objects rather of curiosity than real service. Let me, therefore, strongly urge you always, in your choice of medicines, to lean decidedly towards those of established reputation. Do not neglect the old tried servants of your professional fathers, for the crowd of younger applicants for your favour, whose only claims are a new face, a good deal of pretension, and a list of recommendations from persons you do not know. But, at the same time, I am far from wishing to confine you to the paths before trodden, and to close the access to something higher than we have yet attained. Well regulated efforts to widen the circle of the useful are highly laudable. What I wish to impress on you is, that you should not adopt a medicine because it is new—that you should, in fact, consider its novelty as a ground of suspicion, and should admit it into your confidence only upon strong and trustworthy recommendation, and after a strict examination into its merits."

We entirely subscribe to the following remarks:

"I have only one other limitation to propose to you in your selection of medicines. Never, under any circumstances, employ those of which the composition is kept secret. Such medicines will be constantly urged upon your notice with the highest pretensions. The preparer will offer them to your acceptance and humbly beg for a trial, either in the hope of subsequently obtaining your recommendation, or at least with the intention of making use of your name. Your patients, yielding to the solicitations of friends, or prompted by their own secret hopes, will press you to permit or authorize their use. But steel yourselves against all such solicitations, and resolve that your hand, at least, shall not be the one to fix a stain upon the fair fame of your profession. You may justly ask the reasons for such a positive rejection of remedies of asserted value. Is it not obvious that, so long as their nature and preparation are concealed, you can have no such certain knowledge of their mode of action as to justify you in their employment to meet any given indication? It may be argued, on the opposite side, that we are equally ignorant of the precise composition of many other well known remedies as they come from the laboratory of Nature; that the secret medicine in question may have been so frequently tried, under every variety of circumstances, that, in relation to its physiological and therapeutical effects, it is as well known as those of a more legitimate character; and that we have no right to reject offered means of relief to our patient, however irregular these means may be. But the answer is clear; that a substance produced by nature, even though its composition may not be known, can always be relied on as identical, if obtained under similar circumstances, and treated in the same manner; while, in relation to the secret medicine, you can have no such confidence, as its mode of preparation depends on the caprice or varying views of an individual not always of the best character; and, even though one parcel of it may have been profitably employed under certain circumstances, you can have no satisfactory proof that another parcel will have the same effect. But there are other and higher grounds for your utter rejection of such medicines. By allowing yourselves to be drawn into their use, you would give to unprincipled men the opportunity of citing your example as a rule for others. No matter how careful you may be, in employing the nostrum, to confine it within perfectly safe limits—no sooner will you have touched the vile thing, than the fact will be proclaimed wherever your name has influence; you will be emblazoned in advertisements, and heralded in placards as its indiscriminate patron, and will thus, even against your wishes, be made an instrument for extending its general reputation, and establishing it in the public confidence. After this, it will be in vain that you may disclaim your asserted favour. You cannot but acknowledge that you have used it; and all else that you may say will be ascribed to professional or personal jealousy, and will tend still further to benefit the empiric, by the opportunity it will afford him of exhibiting himself to the public as a persecuted man.

Under these circumstances, would not your first inconsiderate step be answerable for a proportion of all the mischief which may arise from the misapplication of the medicine? Would you not, moreover, be lending your countenance to the general cause of empiricism? Would not the whole rabble of quacks shout out your name as one of their supporters? And would not your profession itself be in some measure degraded by this association of one of its members with such a cause? It is highly important, therefore, to keep yourselves strictly within the regular limits. Exceed these, even

though in a slight degree, and you lose all control over the result. You cannot calculate the evils which may flow from one false step. What is any possible advantage which may accrue in a single case in which you might be disposed to employ the nostrum, compared with all this general evil? I do not speak thus as a mere matter of course, but with a strong sense of the duties of our high calling, and of the imperative obligation of every member of the profession to avoid doing anything which might degrade its character, and limit its sphere of usefulness. I beseech you, gentlemen, as you regard this character, as you value your own reputation and future comfort, to keep yourselves clean from every taint of empiricism. Of what consequence is a little pecuniary profit; nay, of what consequence are heaps of gold acquired by such imposture? Does not a feeling of disgrace cleave to their possessor through his whole future life? Does not the finger of scorn point to him while he lives, and at his death does he not leave an inheritance of shame to his descendants, so that his son and his son's son must blush at the mention of his occupation? I presume, gentlemen, there is not one among you who would not rather be the offspring of the humblest wood-chopper or sweeper of the streets, if an honest man, than of the most prosperous quack who ever revelled in wealth, purchased by a base course of deception, and at the cost of injury to thousands. You would shrink, of course, from leaving to those who may come after you a legacy which you would look upon as a disgrace from one of your own predecessors. But I have been led away from the point to which I wished especially to direct your attention. There is no danger of your becoming quacks—there may be some, that, unless carefully on your guard, you may afford that degree of countenance to quackery which is implied in the occasional employment of secret nostrums. Let me again urge upon you, even at the possible chance of losing a temporary advantage, to shun them altogether, and, so far as your influence may extend, to discourage their use by others of your professional brethren."

A System of Human Anatomy, General and Special. By Erasmus Wilson, M. D. Lecturer on Anatomy, London. *American Edition*, Edited by Paul B. Goddard, A. M., M. D., &c. &c. *With one hundred and seventy illustrations by Gilbert. From the Second London Edition.* Philadelphia: Lea & Blanchard. 1843. 8vo, pp. 576.

This must prove a very acceptable book to the American medical student. It is a clear, concise and well written system of anatomy, and fully posted up to the actual state of the science. Dr. Wilson's work enjoys a high reputation in Great Britain, and from a careful examination of it we think deservedly so. It has already reached two editions, has been translated into German, and, as the author informs us, "repeated overtures have been made to Mr. Churchill for its publication in France." So perfect, indeed, is the present work, that so accomplished an anatomist as the editor, Dr. Goddard, has been able to add but little. It has, however, undergone at his hands a careful revision, and he has occasionally appended an apt and well-written note, illustrative of the text, or vindicatory of cis-atlantic discoveries or de-

scriptions. The illustrations are beautifully executed, and the whole book is gotten up in an admirable manner, and we trust that its sale may be commensurate with its merits and the enterprize of the publishers.

M. C.

The Medical Student's Guide. By HEBER CHASE, M. D. J. G. Auner pp. 101.

A very useful little compendium, containing the fullest information respecting the schools, hospitals, and other medical institutions of Philadelphia. It will be found a serviceable vade mecum to students visiting this city.

Introductory Lecture to the Course of Medical Institutes in the University of Pennsylvania. Delivered November 4, 1842. By SAMUEL JACKSON, M. D. Philadelphia: 1842. 8vo. p. 26.

This is a masterly exposition of the capabilities of our science. Professor JACKSON has always led, rather than followed in the path of medical educational improvement, and the present introductory lecture, affords abundant evidence of the same zealous and untiring spirit to point out the best means for the investigation of truth, as forming the fittest preparation to the pursuit of any branch of scientific inquiry. It is the production of a clear, intelligent and reflecting mind, and we trust will be deeply pondered on by those to whom it was addressed, and who have already evinced a just discrimination in requesting its publication.

After dwelling on the false doctrines which have alternately divided Medicine, Dr. J. observes, that though at the present day there is no general doctrine of Medicine, yet there are many special theories, limited and exclusive, which continue to be promulgated, and in illustration, aptly presents the theories of inflammation, as found in the surgical and pathological works of the day.

"The present doctrines of inflammation, are founded on the observations and experiments of Hastings, Kaltenbruner, Wilson Philip, Thompson, and especially Gendrin. They turn principally on supposed actions in the capillaries. The subjects of these experiments were cold-blooded animals, and the inferences were drawn from movements that were believed to take place in the capillary vessels, from motions seen in the blood corpuscles. But it is now established, and I have verified the fact by experience, that these animals are not susceptible of inflammation and suppuration. Inflammation cannot be produced in their tissues. The phenomena observed in them could not, therefore, resemble those of inflammation occurring in warm-blooded animals. It is clear, that the essential characters of inflammation, an affection that belongs to warm-blooded animals, could not be discovered, by the experiments that were made on cold-blooded animals for that purpose. In all these experiments, a most important circumstance was overlooked. An action of capillaries, contraction or dilatation, was inferred, for no such movements could ever be detected in the vessels themselves, from the move-

ments that were observed in the blood corpuscles. But the agents employed in the experiments, are most of them capable of acting chemically on the blood corpuscles, which have a certain innate capacity of action. These active agents, when applied to the delicate, transparent tissues, are instantaneously mingled with the circulating fluid by endosmose, and thus brought into direct contact with the blood corpuscles. The motions observed in them, are the result of this direct action, between them and the chemical or other agents of the experiment. These movements are entirely independent of the capillary vessels, in which the blood-corpuscles are contained with the transparent blood. In some instances, as when ammonia is employed, the coloring matter of the blood-disk is separated, escapes by exosmose, and it dyes the tissue, without the slightest arrest, or any other change in the circulation.

"Other oversights, it is not necessary now to dwell on, were committed. These are sufficient to show, that the present received doctrines of inflammation, are founded on a basis, not only too narrow and exclusive, but actually a false one. If we do not, therefore, entirely reject them, we must, at least, look on them with suspicion, and hold them in distrust.

"Gendrin, whose observations are the most particular, and which are considered the most conclusive, and to be relied on, must have permitted his imagination to delude his perceptions, as he minutely describes to have seen, what is now demonstrated never could have occurred. He represents, as having witnessed passing under his eye, the conversion of blood corpuscles into pus-globules, in the web of a frog's foot, and the mesentery of a frog. Here are two palpable errors, or rather impossibilities. First, inflammation cannot be produced, nor pus formed in frogs. Second, the pus-globule is never formed from blood corpuscles, but from exudation cells, that are never thrown out in that class of animals."

The claims of organic chemistry are ably investigated, and impartially and fairly decided on.

With not a few, chemistry is outlawed from the domain of vitality. Because the chemical phenomena of living beings, are not the chemical actions of inorganic bodies; because the chemical processes of the living organism, cannot be imitated in the processes of our laboratories, they are denied to be of a chemical nature. If combinations of chemical elements and new arrangments of chemical equivalents; if the changes of component atoms, productive of new forms and new properties, be chemical, and I know not what other is chemistry, then, the great organic functions, respiration, digestion, secretion, nutrition, must be essentially chemical actions, regulated and determined by the laws of vitality.

The two proximate facts of vital activity, persisting from the first to the last movements of life; that follow them through all their grades and modifications, indicating their force and condition, are the combination of the oxygen of the atmosphere with the carbon of the organic matter, and the consequent development of temperature. Surely, if phenomena can be regarded as chemical, these must belong to that class of facts.

A stronger illustration is presented in the development of the chick in the egg. Albumen, some animal oil, and a microscopic germinal spot or vesicle, are the contents of the egg. During incubation there is no addition but oxygen from the atmosphere; nothing is given off but carbon. Yet there is formed, by the vital chemistry of this organic laboratory, blood, membrane, muscles, nerves, glands, secretions, bone, feathers, horny substance. The

chemical elements, and, as respects the most important tissues, the chemical equivalents of the original albumen, the organizable substance, are precisely the same, as the chemical elements and chemical equivalents of these varied and dissimilar organized structures. The only modification has been a new arrangement of the chemical equivalents of the albumen, or the loss of some atoms of its carbon, and addition to it of some atoms of oxygen. Here is presented the strongest evidence of chemical actions.

Chemical actions are, however, but a part, a very subordinate part, of the important phenomena of vitality. The creative force of life has used chemical laws for the composition of the materials it employs, in the production of forms, the construction of its instruments, or organs, and the creation of a living being, after especial types. Chemical actions are means to produce an end: they are agents, assisting in the organization of living tissues, but can never of themselves produce organization, not even of the simplest structure.

Not less striking is the evidence furnished by the successive transformation of the aliment, vegetable and animal, into chyme, chyle and blood. The chemical equivalents, of those different substances are the same as to number and weight. Yet how different are these substances, in all their properties. The blood, the organic fluid, is transformed into solids, muscle or flesh, and nerve substance. But no change in the chemical elements or equivalents has been necessary. The chemical equivalents of muscle, are precisely the same, as to number and weight, as those of the aliment and animal food and nitrogenized vegetables. Little as these various substances resemble one another, there has not been the addition, or the loss of an atom. The only change has been in the arrangement of their chemical equivalents, and this has been sufficient to produce new forms, new states, new properties.

But the solids are not fixed. They are consumed and disappear in the actions of vitality, to be reformed from the plasma of the blood. Yet we do not find the organic matter of the solids escaping. No albumen, or fibrin, or proteine, or gelatin, are found in the excretions. What then is the mode of their elimination? The chemical elements of the organic matter, enter into new combinations, form new substances, new products, that are found in the excretions, principally the urine and the bile. The excretions and the secretions together, give the chemical equivalents of the blood and the solids.

Here are all the evidences of chemical actions. It is true, they surpass all that chemists can, or ever will accomplish. But they are not the less chemical actions. They are appointed to be executed by the living laboratory of organic beings, constructed by the Supreme Artificer of the Universe. The clumsy contrivances of man, never can pretend to imitate processes of such surpassing delicacy.

There is, then, a chemistry of living beings, intimately associated with their vital actions, and necessary to their completion. The chemical actions of life, form the materials, the immediate organic elements, used by the creative force of life, in the construction of the living organism.

Organic chemistry has not, as yet, been an available source of accurate knowledge, applicable to our science. Chemistry had not, until a recent period, reached the height where organic chemistry begins. But organic chemistry has now acquired development and activity. It has taken its position as a department of the physiological sciences, which must depend upon its future movements, so closely are they interwoven, for their progressive advancement. It cannot be neglected without the danger of a

charge of culpable ignorance. Organic chemistry has driven a shaft into the depths of organic phenomena, and struck on a rich vein. No one can foresee the importance of the facts it will bring into light, or the changes it may effect. The recent work of Justus Leibig, is the first successful effort in this unexplored department of medical science. It is to be regretted that he has not confined himself to the experimental part of his investigations, and has prematurely indulged in speculation, for which the science is not sufficiently ripe. What he has done is a promise of the rich stores that will be poured out from the exploration of this vein of knowledge. The most skeptical must be startled at the facts, unquestionably established, and the views they open in the vista of our science.

It cannot be doubted, that organic chemistry is the most important of the means that can impart clear, defined, precise ideas of the processes of the organic functions, in health, in disease, and under medicinal influence. When in possession of this positive knowledge, instead of the notions, it must be confessed, too frequently loose and uncertain that now prevail, it is not possible to anticipate the suggestions it will awaken in intelligent minds, as to the means of preserving health, and the remedial agencies adapted to resist and overcome disease.

But let not the pretensions of organic chemistry be carried too far. It can never be looked to, as a basis for the science of medicine, or for more than a partial theory. The limit of its usefulness, is the exposition of the chemical side of the facts of the organic functions, in their natural state and in disease."

The concluding paragraph is apt and forcible.

"I have only again to repeat, that the more clear and distinct the ideas you form of the actions of the living economy, in their proper characters, and of the class to which each belongs, the more confidence you will feel in the correctness of your views and the soundness of your judgments; the more certainty and success will attend your practical skill in devising the means for remedying their defects. The difference between one who comprehends in every aspect the phenomena he has to deal with, and one who knows them imperfectly, is the difference between the clear-sighted and the blind. We may be surprised at what the blind can do, but it is, nevertheless, the doings of the blind. Knowledge is the field of mental vision, and he who refuses to obtain the knowledge in his power, prefers darkness to light. I shall spare no labour in the performance of my duty, and shall illustrate, by numerous drawings and tables, with which I am amply provided, the subjects that can be graphically represented. Do not neglect your duty. Apply resolutely to the work before you, and difficulties will vanish, obstacles be overcome. Willing hearts and ready minds never fail; they command as they merit success."

ANALECTA.

M. Dumas on the Chemistry of Organized Beings.—It appears that MM. Dumas and Boussingault, in France, have been following out nearly the same pursuits in Organic Chemistry, as Professor Liebig has been doing in

Germany. It is immaterial to us to whom the priority belongs; the important point for science is, that these gentlemen have arrived at very similar conclusions.

From a recently published memoir of M. Dumas, we shall select a few passages that bear more immediately on the physiology of plants and animals.

"We have," says he, "considered *plants* as constituting an immense reducing or decomposing apparatus, that is nourished by carbon, hydrogen, and nitrogen—derived from the decomposition of carbonic acid, water, and oxide of ammonium—and *animals* as forming a large consuming apparatus, in which there is constantly going on in the combustion of these elements, carbon, hydrogen, and ammonium, to form these very compounds.

We have laid it down as a recognized principle that plants form, or prepare, from mineral substances the organic materials of their composition, that these materials are taken into the bodies of animals, are there subjected to the process of digestion, thus become animalized, and are subsequently again brought back by a vital process to the state of mineral and inorganized matter.

As accessory results of our researches, we may state that some plants absorb a certain portion of nitrogen from the atmosphere, while others do not; that animal heat is owing solely to respiration; that the chemical process of this function (respiration) takes place not in the lungs but in the capillary vessels of the whole body; that digestion effects two important results, viz. the assimilation of azotised matter, and the restitution of combustible matters to the blood."

M. Dumas then discusses at considerable length, the striking effects of ammonia in promoting vegetation; this seems to be the potent agent in most manures. Hence whatever tends to assist the formation of this substance, or to render it more fixed and abiding, is found to increase the valuable properties of manures. The addition of a solution of sulphate of iron, or of weak sulphuric acid has this effect, and has been found to add greatly to the fertilizing properties of these matters. A sulphate of ammonia is formed, and remains fixed; the salt being not volatile like its alkaline bases.

With respect to the much vexed question, as to the source of animal heat, it seems to be the opinion of M. Dumas, that during each act of respiration a certain portion of oxygen is absorbed directly into the blood, and a certain portion of carbonic acid—already formed and existing in the blood—displaced and evolved. There is no direct union or combustion, so to speak, of hydrogen or carbon with oxygen in the lungs, as imagined by Lavoisier and Laplace; the formation of the carbonic acid seems to be a slow and successive act that is constantly going on in the minute blood-vessels; and the venous blood, when it reaches the right side of the heart, is already charged with it, and ready to give it off when exposed to the air in the cells of the lungs.

It is necessary to keep in mind that the production of animal heat, the exhalation of carbonic acid into, and the disappearance of oxygen from, the respired air are three separate phenomena—connected, indeed, the one with the other, but not implying that they are of simultaneous occurrence. Or we may express our meaning in different words thus: the generation of animal heat, the decarbonization, and the subsequent arterialization, of the blood, are three mutually-associated, but not coincident, phenomena. The blood becomes arterialized without any necessary production of heat at the

time: and the gradual formation of carbonic acid—an act which is necessarily attended with the evolution of caloric—is going on in every capillary vessel throughout the body.

"Respiration," says our author, "introduces oxygen into the blood and renders it of a bright red colour; carbonic acid is at the same time expelled from it.

L'oxygene absorbé sert à bruler du lactate de soude, et en general des sels de soude. L'acide lactique transforme celui-ci en lactate et degage acide carbonique. Cet acide lactique provient des alimens sucrés ou amylacés."

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"That fatty matters also form salts with the soda of the blood. When they are in excess, they become deposited around the vessels through which they have exsuded, and, by being blended with the albuminous fluids in a state of repose, they serve for the production of adipose cellules or vesicles, and the animal becomes fat—in other words, it lays up a supply of combustible matter. When the organized materials of the blood are consumed (brulés) without being replaced, the vital fluid becomes more decidedly alkaline and begins to react upon the adipose vesicles which surround the vessels; the fat and albumen of the cellules is re-dissolved and absorbed by the blood, and the animal becomes emaciated—in other words, it consumes the combustible matter which had been stored up at a former time."

M. Dumas closes his remarks on this subject by pointing out the difference in the various kinds of food, according to their mode of action on the system, and the changes they undergo during digestion and assimilation. He arranges them in three classes:—

1. Aliments of assimilation—viz. fibrine, albumen, and caseum: these are all of a highly azotised nature.

2. Soluble non-azotised aliments of respiration: such as starch, sugar, acid or acidifiable substances, &c., which at once undergo combustion in presence of the soda in the blood;—hence the production of heat manifested from the very commencement of their digestion.

3. Aliments of respiration, insoluble and therefore capable of being stored up in the body, viz.: various kinds of fatty matter."—*Annales de Chimie.*

We may here insert a paragraph or two from M. Liebig's lecture on the different kinds of food.

"Another most interesting result of M. Liebig's researches is that vegetable albumen, fibrine, and caseine, not only have the same properties as the corresponding elements derived from animal matters, but also exhibit their azote and carbon in the same relations to each other. Thus chemical analysis shews us that herbivorous animals find the constituent materials of their blood, their albumen and their fibrine, already prepared in plants; and that the juice of plants, the vegetable albumen, the farina of wheat and of other *cerealia* contain the principle of muscular fibre, while lentiles, peas and beans, contain the same azotised substance that is present in milk. They (herbivorous animals) live upon the flesh, blood, and cheese supplied them by plants; while, on the other hand, their flesh and blood serve for food to the carnivorous tribe. There is thus a complete identity between the azotised principles existing in vegetables and those in animal substances. Their chemical properties are alike; for we find vegetable albumen, obtained

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by boiling the juice of plants, and freed from all fatty and colouring matter by means of ether and alcohol, can scarcely be distinguished from the white of eggs."—*Medico-Chirurgical Review.* Oct. 1842. *From Algemeine Zeitung.*

Can the future state of the Milk be predicted during Pregnancy?—M. Donné is of opinion that it *can;* and in a very simple manner—by examining the state of the viscid, yellowish secretion which very generally, he says, may be squeezed out of the breasts of pregnant women, and to which the name of *colostrum* has been given. This imperfectly formed milk varies much both in quantity and in its physical properties in different cases; and M. Donné thinks that "he has ascertained that there is a very uniform relation between the nature of this fluid secreted during pregnancy, and the milk that is formed after delivery: or, in other words, that the examination of the colostrum and of its principal characters, enables us to predict what will be the condition of the mammary secretion, its quantity, and its essential properties."

The following are the chief conclusions to which his enquiries have led him:

1. In some women, scarcely a single drop of the *colostrum* can be made to exude from the mammæ during pregnancy. When this is the case, the secretion of the milk afterwards will "presqu' à coup sur," be scanty after delivery, and probably insufficient for the infant.

2. When the *colostrum* is abundant, but thin, watery, or like a thin mucilage, and does *not exhibit any striæ of a yellow-coloured, thick, and viscid matter,*—the italic letters are M. Donné's—the milk afterwards formed is almost always poor, and not nutritious.

3. When the colostrum is—in the eighth month of pregnancy, for example—moderately abundant, so that a few drops can be obtained from the mammæ without difficulty, and especially when it is found to contain distinct striæ* of a yellow-coloured, thickish matter, we may almost confidently predict that the milk will be sufficiently copious, and of good quality.—*Med. Chir Rev., from Conseils aux Meres, &c. Paris,* 1842.

Remarks.—We confess that we have our doubts whether experience will warrant the importance of the signs mentioned by M. Donné. He is one of those zealous, enthusiastic men, full of cleverness and hope, who are apt to arrive at positive conclusions rather more quickly than we slow-footed Englishmen quite approve of. But it is always well to know what our neighbours are thinking of and doing; as not a few useful hints may occasionally be derived from the very errors which they are apt to fall into.—*Rev.*

Transfusion of the Blood of a Goat into the Veins of a Man. By Dr. Bliedinc.—A man, 38 years of age, was seized with an hæmoptysis, which continued so long, and was so violent, that the only means of saving his life appeared to be by supplying the loss of blood by transfusion. On the fifth

* With the assistance of the microscope we often discover that the colostrum is rich in milky globules, already well formed, of a good size, without any admixture of mucous globules, and that it contains also a greater or less quantity of granular corpuscles.

day after the attack a canula was introduced into the median vein of his left arm, a syringe, previously heated, was filled with blood drawn from the jugular vein of a goat, and about five ounces were injected into the vein of the man. Immediately he complained of a feeling of oppression; but this soon afterwards went off. An attack of phlebitis came on next day, but was subdued in eight days, by means of cold applications alone. His strength from this day returned, and at the end of three months he was able to resume his usual occupation. It is remarked, as the interesting point of this case, that it proves that the injection of the blood of one animal into the veins of another is not necessarily fatal.—*Edin. Med. and Surg. Journ. From Journ. de Pharmacie*, May, 1842.

On the Efficacy of Injections of Infusion of Cubebs in Vaginitis. By M. Piorry.—A woman, 23 years of age, had suffered for nine months from an intense *urethro vaginitis*, attended with acute pain, and an abundant discharge. She had tried every usual remedy for its removal without success. M. Piorry ordered an injection made with one ounce of cubebs powder, infused in one pound of water, to be thrown into the vagina six times daily. In two days the discharge had greatly diminished; but the inflammation in the urethra remained intense as before. She was therefore ordered to take 45 grains of powder of cubebs every hour, and in twelve days the pain and discharge had entirely left her, and she was dismissed cured.—*Ibid, from Gazette des Hôpitaux*, May, 1842.

Case of Recovery from Poisoning with Corrosive Sublimate. By M. Vautier.—A man aged 68, in a fit of despair, bruised down about a drachm of corrosive sublimate, put it into a ripe pear, and swallowed it. He soon after began to experience a severe smarting in his throat, and a burning sensation in his stomach, followed by vomiting. When first seen about three-quarters of an hour after swallowing the poison, his face was pale, with an expression of anxiety and suffering, his limbs were cold, and continually tossed about, and the pulse was small, but hard and intermitting. The matters which he vomited had a whitish appearance, were tenacious like albumen, and stretched in long strings from his mouth, and were mixed with portions of the pear. Emetics were freely administered, after which he had the white of six eggs, which he also vomited. After this, no other medicine was given; he was simply confined to barley-water, and in three days he recovered. M. Vautier attributes the speedy recovery to the corrosive sublimate having been taken in the solid form, and along with food. As soon as the natural fluids of the stomach had dissolved any portion of the poison, and allowed it to come in contact with the stomach, vomiting was excited, and the greater portion of the poison expelled before it could exert its full power on the system.—*Ibid; from Journ. de Pharm.* April, 1842.

Poisoning by Cyder containing Lead in Solution.—Six individuals, after drinking cyder for a few days, were seized with the usual symptoms of poisoning by lead, as violent colic, obstinate constipation, pains in limbs, with the attendant trembling. They recovered under the usual remedies. MM.

Chevallier, Olivier, and Pages were directed to investigate into the mode in which the cyder had become adulterated with lead, and found, that, during its preparation, it had been allowed to remain for two days in a reservoir which was lined with lead. They also recognized that the salt of lead which existed in the cyder was a malate, which they found to be a soluble salt. The only interest of this case depends on this circumstance, as both Thomson and Berzelius describe the malate of lead as an insoluble salt; and it is well that chemists should be aware of the fact of its solubility.—*Ibid, from Annales d'Hygiene Publique*, January, 1842.

On the Sanatory condition of Paris during the first six months of 1842. By Dr. Jules Guerin.—In an interesting paper M. Guerin shows the relative mortality from all diseases during the first six months of 1842, as compared with those of 1841. The following table will best explain this. It enumerates the number of cases received, and the deaths which occurred in all the Parisian hospitals during the mentioned period.

	1841.		1842.	
Remaining on 31st Dec.	5,430	Deaths.	5,160	Deaths.
Admitted in January,	6,290	593	6,550	570
" February,	5,772	539	6,099	566
" March,	6,689	632	6,630	673
" April,	6,503	664	6,859	706
" May,	6,931	659	6,877	674
Total,	37,615	3,087	38,175	3,189

This gives a general mortality of about one death in somewhat less than 12 cases for the first six months of 1841, and one death in a fraction more than 12 cases during the like period of 1842. It is stated that the general mortality during the four last months of both of these years was about one death in 16 cases. The deleterious action of atmospheric influences was more especially remarked on the very young and the aged. The following table, including the number of the patients, and the deaths which occurred in all the Parisian hospitals devoted to the cure of diseases of children, and of the aged, shows this. For the sake of comparison the tables are given for 1841 and 1842.

	1841.		1842.	
	No. of cases.	Deaths.	No. of cases.	Deaths.
Remaining 31st Dec.	10,502		10,070	
Admitted January,	869	331	974	332
February,	954	267	936	275
March,	1,090	266	1,099	309
April,	952	344	1,085	337
May,	967	199	980	382
Total,	15,334	1407	15,144	1635

Thus it appears, that, of the very young and the aged, there died in the ratio of 1 to 11 for 1841, and of 1 to 9 in 1842; and the meteorological tables which are appended show, that the last winter months and the first spring months of 1842 were more severe than those of 1841.

Puerperal fever seemed to follow the same general rule as other diseases, in so far as the mortality from it was concerned, as, both during the first six months of 1841 and of 1842, the chief mortality occurred during the month of April. The following table exhibits the number of deaths from puerperal fever, as compared with the number of deliveries in all the Parisian Lying-in-hospitals, during the first six months of 1841 and of 1842.

	1841.		1842.	
	No. of deliveries.	Deaths.	No. of deliveries.	Deaths.
January,	310	13	329	7
February,	295	9	309	12
March,	327	15	335	32
April,	281	46	334	55
May,	318	7	286	35
June,	288	4	236	7
Total,	1819	94	1828	148

Ibid, from Gazette Medicale de Paris, August 6, 1842.

Case of Poisoning by the Binoxalate of Potash.—A lady recently confined was ordered one ounce of the bitartrate of potash; but the apothecary sent by mistake that quantity of the binoxalate of potash, divided into two doses. One dose, or nearly half an ounce, was immediately swallowed, but had scarcely reached the stomach, when she was seized with excruciating pains, followed by violent convulsions, and death within ten minutes after swallowing the draught.

On opening the body twenty-four hours after death putrefaction was found to have commenced on all the lower parts of the abdomen. The mouth, the pharynx, and the œsophagus were in their natural state. The orifices of the stomach were hermetically closed, in consequence of the contraction of the circular fibres which surround them. The mucous membrane of the stomach presented the appearance of violent inflammation. The duodenum and small intestines presented the same appearances. The blood was fluid in the heart and great blood-vessels.

Another case is related where death also resulted from taking for three consecutive mornings a teaspoonful (holding about 1 drachm 16 grains) of the same salt. It produced severe vomiting after each dose, and death within an hour after taking the third dose. The body was not examined.—*Ibid, from Comptes Rendus des Seances de l'Acadamie des Sciences.* April, 1842.

Icterus.—Dr. Boyd's pathological contributions contain an account of the necrological appearances occurring in two cases of female infants labouring under jaundice. In one a female three weeks old, which was merely brought into the institution for interment, and of which no history could be obtained, the liver was dark-coloured, the gall-bladder rather flaccid; it contained a little glairy mucus in its fundus, in its upper portion, and cystic duct; there was a considerable quantity of dark-coloured matter of the consistence of soft wax filling it, and completely blocking up the duct, sufficient

to form a complete mechanical obstruction to the flow of the bile. In the other case, a female, eight days old, the liver was dark-colored, and rather congested; the gall-bladder filled with limpid mucus; no bilious matter in the intestines; no obstructions were detected in the bile ducts. The whole body was of a brigrt yellow color, and the internal membranes were tinged of the same color.—*Ibid*, July, 1842.

M. Orfila on the Absorption of Chemical Substances into the Blood, &c. During the last two or three years, we have repeatedly called the attention of our readers to the very interesting researches of the distinguished toxicologist of Paris relative to the absorption of certain metallic salts, more especially those of arsenic, antimony and copper, into the animal system, and the means of detecting their existence in various organs of the body after death.

We learn from the following letter, addressed by him, during last April, to the Academy of Medicine, that he has been prosecuting his inquiries on this hitherto imperfectly examined point of pathological and physiological science; and we earnestly recommend all practical men not to neglect a diligent acquaintance with such subjects, as it is far from being improbable that the therapeutic action of many active medicines may become much better understood, and thereby the practice of physic be improved, by the discoveries of modern chemistry.

"The following results I have obtained," says M. Orfila, "from a great number of experiments, the details of which will shortly be published.

"1. The diluted sulphuric, nitric, muriatic, and oxalic acids, are absorbed and may be detected in the urine.

"2. The same acids, even in their concentrated condition, are also absorbed; but this probably occurs after their becoming blended with the watery juices of the stomach and bowels, the secretion of which is increased by the contact of such stimulating agents.

"3. The absorption of the salts of lead, bismuth, tin, zinc, gold and silver, cannot be disputed, seeing that we find in the liver and also in the urine of animals, which have been poisoned with those substances, the metals which form their bases. All these metals are discoverable by the same analytic process; viz. carbonising the viscus with strong nitric acid, and treating the residue with aqua regia or with nitric acid.

"4. The salts of mercury also are absorbed and carried by the blood into all the viscera of the body. To prove this, we have only to treat one of the viscera of an animal, which has been poisoned with a mercurial salt, with aqua regia, and to pass through the solution thus obtained a current of chlorine gas; or what is still better, to carbonate the viscera with a strong acid in a closed vessel, and to treat the residue with boiling aqua regia.

"5. I have also detected in the viscera—more especially in the substance of the liver and in the urine—traces of the sulphuret of iodine, of nitrate of potash, of alum, of ammonia, and of sal ammoniac.

"The results now stated complete the suite of researches which I proposed to undertake on the subject of the absorption of poisonous matters derived from the mineral kingdom; they serve to establish beyond all doubt the correctness of the views which I explained in my former communications relative to the absorption of the salts of arsenic, antimony, and copper."—*Med. Chir. Rev.* Oct. 1842, *from Gaz. Medicale.*